

out of it with the inventors. In the event of a university or SME not opting for retaining the title, the concerned government funding agency steps in and takes necessary action for protection of intellectual property and commercialization of technologies. The Act encourages the universities and SMEs to protect the intellectual property and commercialize the technologies, thereby leading to economic development of the country. Such an Act in India will provide uniformity across ministries funding R&D projects and universities and research establishments implementing such projects so far as protection of intellectual property and sharing of revenue are concerned. The clarity in the Government policy will benefit the research in the field of biotechnology in India.

(c) There is no need for entering into an Agreement with USA to share the intellectual property with the inventors in India.

### **Falling standards of scientific and technological research**

520. SHRIMATI S.G. INDIRA: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that there has been a fall in the standards of scientific and technological research;

(b) if so, the reasons therefor and whether Government are considering to increase the spending on R & D;

(c) whether Government are considering to rejuvenate science and technology; and

(d) if so, the details thereof?

THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) Despite the limited resources available scientific and technological research has been on the upswing. India's scientific and technical research achievements in terms of research papers published and patent applications filed have increased significantly over the years. As per the Science Citation Index (SCf), India published 11,084 papers in 1995 which increased to 19,448 papers in 2005. Its share in terms of the total world output has increased from 1.6% in 1995 to 1.8% in 2005. In the context of patent applications filed by India, as per the World Intellectual

Property Organisation (WIPO) Statistics, the number of patent applications filed has increased from 190 in 2000 to 678 in 2005. India ranks 3rd among the top five developing countries in patent filings. In order to give further boost to scientific research, the Government has enhanced the S & T Plan outlay of Scientific Departments/Agencies from Rs. 12,022 crores in 9th Plan to Rs. 25,243 crores in 10th Plan. For the 11th Plan Government is considering a higher allocation for research and development.

(c) & (d) Yes, Sir. The Government has framed policies and various schemes to rejuvenate science & technology in the country. The various measures taken from time to time are:

Policies:

- \* Science and Technology Policy, 2003.
- \* Increase in the outlay for science and technology sector in successive Five Year Plans.
- \* Delegation of enhanced administrative and financial powers to S & T institutions to improve working conditions of scientists.

Programmes targeted towards young scientists:

- \* Swarnajayanti Fellowships.
- \* Fast Track Scheme for Young Scientists.
- \* SERC Visiting Fellowships.
- \* SERC Schools in emerging areas of science and technology.
- \* Better Opportunities for Young Scientists in Chosen Areas of Science and Technology (BOYSCAST) fellowship to visit international laboratories and institutions.
- \* Mission HOPE (Higher Education-Opportunities for Promoting Entrepreneurship) with the aim of converting aspirations to real enterprises (CARE).
- \* Contact programmes to attract and motivate brilliant young scientists to take up R & D as a career.
- \* Junior/Senior research fellowships, research associateships and senior research associateships.

- \* Diamond Jubilee Research interns Award Scheme, JRF—GATE and Entrepreneurship support to research scholars.
- \* Early Faculty Induction Programme, which aims at attracting bright and young under-graduate students in Engineering and Technology/ Pharmacy/Architecture, etc. to take teaching as their career.
- \* S & T based training for entrepreneurial development.
- \* Women Scientists Scheme.

Programmes targeted towards performing scientists:

- \* The Ramanujan Fellowships.
- \* The JC Bose National Fellowships.
- \* The Ramanna Fellowships.
- \* Shyama Prasad Mukherjee Fellowships.
- \* SERC Individual Projects.
- \* Financial assistance to scientists to participate in international conferences and training programmes.
- \* Opportunities to distinguished scientists and technologists of Indian origin settled abroad for short term technical assignments to assist in frontier and emerging areas of S & T
- \* Post-doctoral Fellowships in Biotechnology and Life Sciences.

Infrastructure development programmes:

- \* Intensification of Research in High Priority Areas (IRHPA).
- \* Fund for Improvement of S & T Infrastructure in Higher Educational Institutions (FIST).
- \* Setting up of centres of excellence/advanced studies in the universities and academic institutions.
- \* Creation of core groups of professionals with necessary modern facilities required for pursuing research in new and frontier areas of science.
- \* Creation of new scientific Departments/Organisations.